

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) Microcapsules having a core material encapsulated within a microcapsular shell, said core material comprises at least one active ingredient,

wherein the microcapsular shell comprises at least one inorganic polymer comprising polymerized precursors obtained by in-situ polymerization of said precursors in a pH in the range of 2 to 7;

wherein the weight ratio of said precursors to said core material is in the range of 5/95 to 25/75 and wherein said precursors are selected from metal alkoxide monomers, semi-metal alkoxide monomers, metal ester monomers, semi-metal ester monomers and from monomers of the formula $M(R)_n(P)_m$, wherein M is a metallic or semi metallic element, R is a hydrolysable substituent, n is an integer from 2 to 6, P is a non polymerizable substituent and m is an integer from 0 to 6, a partially hydrolyzed and partially condensed polymer thereof, and any mixture thereof; and

wherein the concentration of the core material based on total weight of the microcapsules is 96% to 99% w/w.

2.-8. (Canceled)

9. (Previously presented) The microcapsules of claim 1 wherein the active ingredient is selected from sunscreen agents, dental agents, fragrances, perfume, colors and dyes, food colors, food additives, waxes, antioxidants, humidifiers, vitamins, explosives, pesticides, biological molecules, drugs, catalysts, reagents, and mixtures thereof.

10. (Original) The microcapsules of claim 9 wherein said drug is selected from dermatological agents, anti-inflammatory agents, analgesics, anti-fungal agents, anti-biotics, anti-viral agents, anti-acne agents, anti histamines, skin whitening agents, anti-parasitic agents, muscle relaxants, steroids, hormones, astringents and mixtures thereof.

11.-12. (Canceled)

13. (Previously presented) The microcapsules of claim 9 wherein said sunscreen agent is selected from octylmethoxy cinnamate, 3-butylmethoxydibenzoyl methane, benzophenone-3, benzophenone-1, benzophenone-2, benzophenone-4, benzophenone-6, benzophenone-8, 2-ethylhexyl p-methoxycinnamate, p-aminobenzoic acid, 2-ethylhexyl N, N-dimethyl-p-aminobenzoate, 2-cyano-3, 3-diphenylacrylic acid 2-ethylhexyl ester, 2-ethylhexyl-2-cyano-3,3-diphenylacrylate, oxybenzone, 2-phenylbenzimidazole-5-sulfonic acid, homomenthyl salicylate, octyl salicylate, 4,4'-methoxy-t-butylidibenzoylmethane, 4-isopropyl dibenzoylmethane, 3-(4-methylbenzylidene) camphor, 3-benzylidene camphor, triethanolamine salicylate, 4-N,N-(2-ethylhexyl)methyl aminobenzoic acid ester of 2,4-dihydroxybenzophenone, 4-N,N-(2-ethylhexyl)methyl aminobenzoic acid ester of 4-hydroxydibenzoylmethane, 4-N,N-(2-ethylhexyl)methyl- aminobenzoic acid ester of 2-hydroxy-4-(2-hydroxyethoxy)- benzophenone, 4-N,N-(2-ethylhexyl)methyl aminobenzoic acid ester of 4-(2-hydroxyethoxy)dibenzoylmethane, and mixtures thereof.

14. (Canceled)

15. (Previously presented) The microcapsules of claim 9 wherein said dye is a fluorescent dye.

16-18. (Canceled)

19. (Currently amended) The microcapsules of ~~claim 17~~ claim 1 wherein said precursors are selected from silicon alkoxide monomers, silicon ester monomers, monomers of the formula $\text{Si}(\text{R})_n (\text{P})_m$, where R is a hydrolysable substituent, n is an integer from 2 to 4, P is a non polymerizable substituent and m is an integer from 0 to 4, a partially hydrolyzed and partially condensed polymer thereof, and any mixture thereof.

20.-21. (Canceled)

22. (Previously presented) The microcapsules of claim 19 wherein said silicon alkoxide monomer is selected from tetramethoxy silane, tetraethoxy silane, and mixtures thereof.

23. (Previously presented) The microcapsules of claim 19 wherein said silicon alkoxide monomer is tetraethoxy silane.

24. (Previously presented) The microcapsules of claim 1 wherein said active ingredient is a sunscreen agent and said precursor is tetraethoxy silane.

25.-28. (Canceled)

29. (Currently amended) A composition comprising microcapsules having a core material encapsulated within a microcapsular shell, said core material comprises at least one active ingredient,

wherein the microcapsular shell comprises at least one inorganic polymer comprising polymerized precursors obtained by in-situ polymerization of said precursors;

wherein the weight ratio of said precursors to said core material is in the range of 5/95 to 25/75 and wherein said precursors are selected from metal alkoxide monomers, semi-metal alkoxide monomers, metal ester monomers, semi-metal ester monomers and from monomers of the formula $M(R)_n(P)_m$, wherein M is a metallic or semi metallic element, R is a hydrolysable substituent, n is an integer from 2 to 6, P is a non polymerizable substituent and m is an integer from 0 to 6, a partially hydrolyzed and partially condensed polymer thereof, and any mixture thereof; and

wherein the concentration of the core material based total weight of the microcapsules is above 95% w/w; and a carrier.

30.-32. (Canceled)

33. (Withdrawn-currently amended) A suspension, substantially free of colloidal silica, comprising microcapsules having a core material encapsulated within a microcapsular shell, said core material comprises at least one active ingredient,

wherein the microcapsular shell comprises at least one inorganic polymer comprising polymerized precursors obtained by in-situ polymerization of said precursors;

wherein the weight ratio of said precursors to said core material is in the range of 5/95 to 25/75 and wherein said precursors are selected from metal alkoxide monomers, semi-metal alkoxide monomers, metal ester monomers, semi-metal ester monomers and from monomers of the formula $M(R)_n(P)_m$, wherein M is a metallic or semi metallic element, R is a hydrolysable substituent, n is an integer from 2 to 6, P is a non polymerizable substituent and m is an integer from 0 to 6, a partially hydrolyzed and partially condensed polymer thereof, and any mixture thereof; and

wherein the concentration of the core material based total weight of the microcapsules is 96% to 99% w/w.

34.-39. (Canceled)

40. (Withdrawn-currently amended) A process for preparing microcapsules having a core material encapsulated within a microcapsular shell, said core material comprises at least one active ingredient,

said process comprising the step of;

preparing an oil-in-water emulsion by emulsification of an oily phase, comprising a water insoluble precursor and the core material, in an aqueous phase, comprising an aqueous solution having a pH in the range 2-7 and wherein said precursor is selected from metal alkoxide monomers, semi-metal alkoxide monomers, metal ester monomers, semi-metal ester monomers and from monomers of the formula $M(R)_n(P)_m$, wherein M is a metallic or semi metallic element, R is a hydrolysable substituent, n is an integer from 2 to 6, P is a non polymerizable substituent and m is an integer from 0 to 6, a partially hydrolyzed and partially condensed polymer thereof, and any mixture thereof, under appropriate shear forces and temperature conditions;

the process comprising at least one of the following conditions:

- (i) the concentration of the oily phase based on the total weight of the emulsion is from 50% to 90% w/w;
- (ii) the weight ratio of the precursors to the core material is from 5/95 to 25/75;

thereby obtaining microcapsules having 96% to 99% w/w of said core material.

41. (Withdrawn) The process of claim 40 comprising a combination of the two conditions (i) and (ii).

42. (Withdrawn) The process of claim 40 comprising condition (ii).

43. (Withdrawn) The process of claim 40 further comprising the step of mixing and stirring said emulsion with another aqueous solution at a suitably selected pH in the range 2-7, to obtain loaded microcapsules in a suspension.

44. (Canceled)

45. (Withdrawn) The process of claim 40 wherein the pH of the aqueous solution is in the range 3-4.

46. (Canceled)

47. (Withdrawn) The process of claim 40 comprising:

- (a) mixing a core material and a precursor in a production reactor forming an oily phase;
- (b) adding an aqueous phase having a pH in the range 2-7 to the production reactor in step (a) to form an oil-in water emulsion; and
- (c) stirring the product obtained in step (b) until microcapsules are formed.

48. (Withdrawn) The process according to claim 40 wherein the process is conducted in one production reactor.

49.-50. (Canceled)

51. (Withdrawn) The process of claim 47 further comprising the step of adding an ingredient selected from a surfactant, a catalyst and a mixture thereof after step (b).

52. (Withdrawn) The process of claim 51 further comprising the step of diluting with an aqueous diluent after adding said ingredient.

53.-55. (Canceled)

56. (Withdrawn) The process of claim 51 wherein said catalyst is an acidic solution.

57.-59. (Canceled)

60. (Withdrawn) The process of claim 40 further comprising the step of isolating and rinsing the microcapsules through procedures selected from at least one of: separation by centrifuge; filtration; evaporation; re-suspension in aqueous medium; and dialysis.

61. (Canceled)

62. (Withdrawn) The process of claim 40 further comprising the step of removing the water to obtain the final product in a powder form.

63.-72. (Canceled)

73. (Withdrawn-currently amended) The process of claim 40 wherein the ~~weigh~~ weight ratio of the precursors to the core material is from 10/90 to 15/85.

74. (Withdrawn-currently amended) The process of claim 40 wherein the ~~weigh~~ weight ratio of the precursors to the core material is from 10/90 to 15/85 and the pH of said aqueous solution is 3-4.

75.-81. (Canceled)

82. (Withdrawn) The process of claim 40 wherein the active ingredient is selected from sunscreen agents, dental agents, fragrances, perfume, colors and dyes, food colors, food additives, waxes, antioxidants, humidifiers, vitamins, explosives, pesticides, biological molecules, drugs, catalysts, reagents, and mixtures thereof.

83. (Withdrawn) The process of claim 82 wherein said drug is selected from dermatological agents, anti-inflammatory agents, analgesics, anti-fungal agents, anti-biotics, anti-viral agents, anti-acne agents, anti histamines, skin whitening agents, anti-parasitic agents, muscle relaxants, steroids, hormones, astringents, and mixtures thereof.

84.-85. (Canceled)

86. (Withdrawn) The process of claim 82 wherein said sunscreen agent is selected from octylmethoxy cinnamate, 3-butylmethoxydibenzoyl methane, benzophenone-3, benzophenone-1, benzophenone-2, benzophenone-4, benzophenone-6, benzophenone-8, 2-ethylhexyl p-methoxycinnamate, p-aminobenzoic acid, 2-ethylhexyl N, N-dimethyl-p-aminobenzoate, 2-cyano-3, 3-diphenylacrylic acid 2-ethylhexyl ester, 2-ethylhexyl-2-cyano-3,3-diphenylacrylate, oxybenzone, 2-phenylbenzimidazole-5-sulfonic acid, homomenthyl salicylate, octyl salicylate, 4,4'-methoxy-t-butylidibenzoylmethane, 4-isopropyl dibenzoylmethane, 3-(4-methylbenzylidene) camphor, 3-benzylidene camphor, triethanolamine salicylate, 4-N,N-(2-ethylhexyl)methyl aminobenzoic acid ester of 2,4-dihydroxybenzophenone, 4-N,N-(2-ethylhexyl)methyl aminobenzoic acid ester of 4-hydroxydibenzoylmethane, 4-N,N-(2-ethylhexyl)methyl-aminobenzoic acid ester of 2-hydroxy-4-(2-hydroxyethoxy)- benzophenone, 4-N,N-(2-ethylhexyl)methyl aminobenzoic acid ester of 4-(2-hydroxyethoxy)dibenzoylmethane, and mixtures thereof.

87. (Canceled)

88. (Withdrawn) The process of claim 82 wherein said dye is a fluorescent dye.

89-91. (Canceled)

92. (Withdrawn-currently amended) The process of ~~claim 90~~ claim 40 wherein said precursors are selected from silicon alkoxide monomers, silicon ester monomers, monomers of the formula $\text{Si}(\text{R})_n (\text{P})_m$, where R is a hydrolysable substituent, n is an integer from 2 to 4, P is a non polymerizable substituent and m is an integer from 0 to 4, a partially hydrolyzed and partially condensed polymer thereof, and any mixture thereof.

93. (Canceled)

94. (Withdrawn-currently amended) The process of ~~claim 90~~ claim 40 wherein said semi metal alkoxide monomer is silicon alkoxide monomer.

95. (Withdrawn) The process of claim 94 wherein said silicon alkoxide monomer is selected from tetramethoxy silane, tetraethoxy silane, and mixtures thereof.

96. (Withdrawn) The process of claim 94 wherein said silicon alkoxide monomer is tetraethoxy silane.

97. (Withdrawn) The process of claim 40 wherein said active ingredient is a sunscreen agent and said precursor is tetraethoxy silane.

98.-109. (Canceled)